Curriculum Vitae

Xianfeng (Terry) Yang, Ph.D.

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Research Interests

- Machine Learning for Smart Mobility
- Connected Automated Vehicles
- Transportation Planning
- Smart Cities and Communities
- Traffic Signal Control and Optimization
- Freeway Traffic Operations
- Traffic Safety
- Emergency Evacuation
- Transportation Simulation
- Transportation Network Flow Modeling
- Operations Research
- Transportation Equity

Education

Ph.D. Civil Engineering (Transportation) — January 2012- August 2015
*Department of Civil and Environmental Engineering — University of Maryland, College Park
Best Doctoral Research Award

M.S. Civil Engineering (Transportation) — August 2009- December 2011
Department of Civil and Environmental Engineering — University of Maryland, College Park

B.S. Civil Engineering — August 2005- August 2009
Department of Civil Engineering — Tsinghua University, Beijing, China

Appointments

Aug 2022 –	Assistant Professor, Department of Civil & Environmental Engineering, University of Maryland, College Park.
Aug 2017 – July 2022	Assistant Professor, Department of Civil & Environmental Engineering, University of Utah.
Aug 2015 – Aug 2017	Assistant Professor, Department of Civil, Construction & Environmental Engineering, San Diego State University.
Jan 2014 – May 2017	Course Instructor, Department of Civil & Environmental Engineering, University of Maryland
Aug 2009 – Jul 2015	Research Assistant, Center for Traffic Safety and Operations, University of Maryland

Research Grants at University of Maryland

*DOE – Department of Energy; NSF – National Science Foundation; FHWA – Federal Highway Administration; USDOT – US Department of Transportation; UDOT – Utah Department of Transportation

Sponsor*	Title	Role	Period	Total	Yang's Credit
DOE	Visual-Enhanced Cooperative Traffic Operations (VECTOR) System	Co-PI & Utah PI	09/22–12/24	$3,500,000	$501,745
NSF	Collaborative Research: OAC Core: Stochastic Simulation Platform for Assessing Safety Performance of Autonomous Vehicles in Winter Seasons	Lead PI	08/21–09/24	$499,604	$296,575
NSF	CAREER: Physics Regularized Machine Learning Theory: Modeling Stochastic Traffic Flow Patterns for Smart Mobility Systems	Solo PI	08/21–02/26	$538,633	$538,633

Research Grants at University of Utah

Note: all underlined numbers reflect the cash from external sponsors and in-kind/cash cost-shares from the U of Utah are excluded.

*DOE – Department of Energy; NSF – National Science Foundation; FHWA – Federal Highway Administration; USDOT – US Department of Transportation; UDOT – Utah Department of Transportation

Sponsor*	Title	Role	Period	Total	Yang's Credit
DOE	Visual-Enhanced Cooperative Traffic Operations (VECTOR) System	Co-PI & Utah PI	10/21–12/24	$3,500,000	$ 1,003,099

FHWA	Automated Driving Systems (ADS) OEM-Industry Research Collaboration and Integrated Highway Prototype (CARMA IHP2)	Co-PI & Utah PI	10/20–09/21	$300,000	$65,000
FHWA	Roadway Ice/snow Detection using a Novel Infrared Thermography Technology	Co-PI	10/20–06/22	$139,249	$68,357
USDOT, UDOT	Knowledge-based Machine Learning for Freeway COVID-19 Traffic Impact Analysis and Traffic Incident Management	Co-PI	06/21–12/22	$337,686	$152,568
USDOT, UDOT	Design and Evaluate Coordinated Ramp Metering Strategies for Utah Freeways	Solo PI	10/20–06/22	$120,000	
USDOT, UDOT	Impact of Regulatory Hybrid Changeable Message Sign on Traffic Safety under Different Freeway Geometric Designs	Solo PI	08/19–06/22	$145,000	
USDOT, UDOT	Impact of Connected Vehicle Technology on Traffic Safety under Different Highway Geometric Designs	Solo PI	08/18–06/22	$80,000	
USDOT, UDOT	Pedestrian behavior study to advance pedestrian safety in smart transportation systems using innovative LIDAR sensors	Co-PI	10/20–11/21	$324,386	$93,275
USDOT, UDOT	Data-Driven Mobility Strategies for Multimodal Transportation	Co-PI	10/19–12/20	$302,738	$103,186
USDOT, UDOT	Connected Vehicle System Design for Signalized Arterial.	PI	08/18–11/19	$149,513	
USDOT	Small Start: Vehicle Sensor Data (VSD) Based Traffic Control in Connected Automated Vehicle (CAV) Environment	Solo PI	11/17–10/18	$20,000	
UDOT	Mobile Phone-based Artificial Intelligence Package for Maintenance Asset Data Collection	PI	09/21–06/23	$50,000	
UDOT	Utilizing Lidar Sensor to Detect Pedestrian Movements at Signalized Intersections	PI	09/21–06/23	$60,000	
UDOT	Development of Crash Modification Factors (CMFs) for Utah Intersections	Solo PI	09/21–06/23	$50,000	

UDOT	Transportation Benefits and Costs of Reducing Lane Widths on Urban and Rural Arterials	Co-PI	09/21–06/23	$50,000	$20,000
UDOT	Multi-Stage Algorithm for Detection-Error Identification and Data Screening	Solo PI	06/18–10/20	$50,000	
UDOT	Assessment of the Effectiveness of Wrong Way Driving (WWD) Detection System and Countermeasures	PI	12/17–05/19	$40,000	
UDOT	Investigation of Highway Speed Limit Compliance Rate and Evaluation of Current Practices on Setting up Speed Limit in Towns along Highways in Utah	PI	12/17–05/19	$30,000	

Journal Publications (underline: supervised students; *:corresponding author)

59. Qinzheng Wang, Yun Yuan, Qiwei Zhang, & **Xianfeng Yang**, (2022), "Arterial Origin-destination Flow Estimation Using Flawed Vehicle Trajectories: Self-supervised Learning without Ground Truth", Transportation Research Part C. Accepted.

58. Qinzheng Wang, Yaobang Gong, & **Xianfeng Yang**, (2022), "Connected Automated Vehicle Trajectory Optimization Along Signalized Arterial: A Decentralized Approach Under Mixed Traffic Environment", Transportation Research Part C. Accepted.

57. Handong Yao, Xiaopeng Li*, & **Xianfeng Yang**, (2022), "Physics-Aware Learning-based Vehicle Trajectory Prediction of Congested Traffic in a Connected Vehicle Environment", IEEE Transactions on Vehicular Technology. Accepted.

56. Jia Hu, Longqian Qi, Zihan Zhang, **Xianfeng Yang**, & Xin Li* (2022), "A Detection Method for Cyber-Attack on Connected Signal Phase and Timing Information", Transportmetrica B: Transport Dynamics. In-press. DOI: 10.1080/21680566.2022.2039323

55. Hao Wang, Yun Yuan*, **Xianfeng Yang**, Tian Zhao, & Yang Liu, (2021), "A Deep Model-based Deep Q-Learning Algorithm for Traffic Signal Timing at Urban Intersection", Journal of Intelligent Transportation Systems. In-press. DOI: 10.1080/15472450.2021.2023016

54. Yun Yuan, Qinzheng Wang, **Xianfeng Yang*** (2021), "Traffic Flow Modeling with Gradual Physics Regularized Learning", IEEE Transactions on Intelligent Transportation Systems, in-press. DOI: 10.1109/TITS.2021.3131333.

53. Lianhua An, **Xianfeng Yang**, & Jia Hu, (2021), "Modeling System Dynamics of Mixed Traffic with Partially Connected and Automated Vehicles", IEEE Transactions on Intelligent Transportation Systems, In-press. DOI: 10.1109/TITS.2022.3145395

52. Bahar Azin, **Xianfeng Yang***, Nikola Markovic, & Mingxi Liu, (2021), "Infrastructure Enabled and Electrified Automation: Charging Facility Planning for Cleaner Smart Mobility ", Transportation Research Part D, vol.101, 103079.

51. Jia Hu, Zihan Zhang, Yongwei Feng, Xin Li*, & **Xianfeng Yang**, (2021) "Transit Signal Priority Enabling Connected and Automated Buses to Cut Through Traffic ", IEEE Transactions on Intelligent Transportation Systems, In-press. DOI: 10.1109/TITS.2021.3086110.

50. Qinzheng Wang & **Xianfeng Yang***, (2021), "Dynamic Multi-path Signal Progression Control based on Connected Vehicle Technology", Journal of Transportation Engineering, Vol. 147 (10), pp.04021054.

49. Yun Yuan, Zhao Zhang, **Xianfeng Yang***, & Shandian Zhe (2021), "Macroscopic Traffic Flow Modeling with Physics Regularized Gaussian Process: A New Insight into Machine Learning Applications in Transportation", Transportation Research Part B, Vol. 146, pp. 88-110.

48. Qinzheng Wang, Yun Yuan, **Xianfeng Yang***, & Zhitong Huang (2021), "Adaptive and Multi-path Progression Signal Control under Connected Vehicle Environment", Transportation Research Part C, Vol. 124, 102965.

47. Chenfeng Xiong, **Xianfeng Yang**, Minha Lee, Lei Zhang (2021), "An integrated modeling framework for active traffic management and its applications in the Washington D.C. area", Journal of Intelligent Transportation Systems. Vol. 25(6), pp. 609-625.

46. Zhao Zhang and **Xianfeng Yang**, (2021), "Analysis of highway performance under mixed connected and regular vehicle environment", Journal of Intelligent and Connected Vehicle, Vol. 2(2), pp. 68-79.

45. **Xianfeng Yang**, Ke Huang*, Zhehao Zhang, & Zhao Zhang, (2021), "Eco-Driving System for Connected Automated Vehicles: Multi-Objective Trajectory Optimization", IEEE Transactions on Intelligent Transportation Systems. Vol 22(12), pp. 7837 - 7849.

44. Wei Hao*, Li Liu, & **Xianfeng Yang**, (2020), "Reducing CACC Platoon Disturbances Caused by State Jitters by Combining Two Stages Driving State Recognition With Multiple Platoons' Strategies and Risk Prediction' Strategies and Trajectory Prediction", IEEE Transactions on Intelligent Transportation Systems. In-press. DOI: 10.1109/TITS.2020.3033436

43. Zhao Zhang, Runan Yang, Glenn Blackwelder, & **Xianfeng Yang***, (2020) "Examining Driver Injury Severity in Left-turn Crashes using Hierarchical Ordered Probit Models", Traffic Injury Prevention, Vol. 22(1), pp. 57-62.

42. Zhao Zhang & **Xianfeng Yang***, (2020) "Freeway Traffic Speed Estimation by Regression Machine Learning Techniques Using Probe Vehicle and Traffic Sensor Data ", Journal of Transportation Engineering. Vol. 146(12).

41. Zhao Zhang, & **Xianfeng Yang***, (2020) "Freeway Traffic Speed Estimation in Traffic Monitoring Systems using a Hybrid Machine Learning Approach", Journal of Transportation Research Board: Transportation Research Record, Vol. 2674(10), pp. 68-78.

40. Qinzheng Wang, **Xianfeng Yang***, Blaine D. Leonard, & Jamie Mackey, (2020), "Field Evaluation of Connected Vehicle-based Transit Signal Priority System under Two Different Signal Base Plans", Journal of Transportation Research Board: Transportation Research Record, Vol. 2674:(7), pp. 172-180.

39. Yongjie Lin, **Xianfeng Yang***,& Qinzheng Wang (2020), "New transit signal priority scheme for intersections with nearby bus rapid transit median stations", IET Intelligent Transport Systems, Vol. 14(12), pp. 1606 – 1614.

38. Qinzheng Wang, **Xianfeng Yang***, Zhitong Huang, & Yun Yuan, (2020), "Multi-vehicle Trajectory Optimization for Cooperative Adaptive Cruise Control (CACC) Platoon Formation", Journal of Transportation Research Board: Transportation Research Record, Vol. 2674(4), pp. 30-41.

37. Liu Xu, **Xianfeng Yang***, & Gang-Len Chang, (2019), "Development of a Two-stage Signal Optimization Model for Signalized Superstreet", Transportmetrica A: Transport Science. 15:2, pp. 993-1018.

36. **Xianfeng Yang***, Zhao Zhang, Gang-Len Chang, & Pengfei Li, (2019), "Smart Signal Control System for Accident Prevention and Arterial Speed Harmonization under Connected Vehicle Environment", Journal of Transportation Research Board: Transportation Research Record. vol 2673 (5), pp: 61-71.

35. **Xianfeng Yang**, Wei Hao*, & Yang Lu, (2019), "Inventory Slack Routing Application in Emergency Logistics and Relief Distributions", PLOS ONE 13(6): e0198443.

34. Yongjie Lin*, **Xianfeng Yang**, & Nan Zou, (2019), "Passive Transit Signal Priority for High Transit Demand: Model Formulation and Strategy Selection", Transportation Letters: The International Journal of Transportation Research, vol. 11(3), pp. 119-129

33. Wei Hao, Yongjie Lin*, Yao Cheng, **Xianfeng Yang**, (2018), "Signal Progression Model for Long Arterial: Intersection Grouping and Coordination", IEEE Access, vol 6, pp. 30128–30136.

32. Xin Li, Liyu Wu, & **Xianfeng Yang***, (2018), "Exploring the Impact of Social Economic Variables on Traffic Safety Performance in Hong Kong: A Time Series Analysis",Safety Science, vol 109, pp. 67–75.

31. Ke Huang, **Xianfeng Yang***, Chris Mi, & Yang Carl Lu, (2018), "Ecological Driving System for Connected/Automated Vehicle using a Two-Stage Control Hierarchy",IEEE Transactions on Intelligent Transportation Systems, vol 19(7), pp. 2373–2384.

30. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2018), "Integration of Adaptive Signal Control and Freeway Off-ramp Priority Control for Commuting Corridors",Transportation Research Part C, vol 86, pp. 328–345.

29. Yao Cheng & **Xianfeng Yang***, (2018), "Signal Coordination Model for Local Arterial with Heavy Bus Flows", Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, vol 22(5), pp. 422-432.

28. Atsushi Nara*, **Xianfeng Yang**, Sahar Ghanipoor, & Ming Tsou, (2017), "An Integrated Evacuation Decision Support System Framework with Social Perception Analysis and Dynamic Population Estimation", International Journal of Disaster Risk Reduction. Vol 25, pp. 190–201.

27. Wei Hao*, Bahman Moghimi, & **Xianfeng Yang**, (2017), "Effects of Foggy Conditions on Driver Injury Levels in U.S. Highway-rail Grade Crossing Accidents", Case Studies on Transport Policy, vol 5 (4), pp. 627–633.

26. Pu Lyu, Yongjie Lin*, Lei Wang, & **Xianfeng Yang**, (2017), "Variable Speed Limit Control for Delay and Crash Reductions at Freeway Work Zone Area", ASCE Journal of Transportation Engineering, Part A: Systems, vol. 143 (12): 04017062.

25. Liu Xu, **Xianfeng Yang***, & Gang-Len Chang, (2017), "Computing Minimal U-Turn Offset for Unsignalized Superstreet", Journal of Transportation Research Board: Transportation Research Record, vol. 2618, pp. 48–57.

24. **Xianfeng Yang*** & Gang-Len Chang, (2017), "Estimation of Time-Varying Origin-Destination Patterns for Design of Multipath Progression on a Signalized Arterial", Journal of Transportation Research Board: Transportation Research Record, vol. 2667, pp. 28–38.

23. **Xianfeng Yang**, Yang Lu, & Wei Hao*, (2017), "Origin Destination (O-D) Estimation using Probe Vehicle Trajectory and Link Counts", Journal of Advanced Transportation, vol. 2017, ID 4341532.

22. **Xianfeng Yang*** & Yao Cheng, (2017), "Development of Signal Optimization Models for Asymmetric Two-Leg Continuous Flow Intersections", Transportation Research Part C, vol. (74), pp. 306–326.

21. Wei Hao*, Camille Kamga, & **Xianfeng Yang**, (2016), "Driver Injury Severity Study for Truck Involved Accidents at Highway-rail Grade Crossing in the United States", Transportation Research Part F, vol. 43, pp. 379–386.

20. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2016), "Operational Analysis and Signal Design for Asymmetric Two-Leg Continuous-Flow Intersection", Transportation Research Record: Journal of the Transportation Research Board, vol 2553, pp. 72–81.

19. **Xianfeng Yang***, Yang Carl Lu, & Yongjie Lin, (2016), "Optimal variable speed limit control system for freeway work zone operations", ASCE Journal of computing in civil engineering, Vol 31(1), 04016044.

18. Zhijie Dong, Mengcheng Wang, & **Xianfeng Yang***, (2016), "The Application of Public Private Partnerships in Public Transportation: Comparative Study between China and United States", Journal of Modern Transportation, vol. 24 (3), pp. 215–223.

17. Xiaoyun Lu, Jie Yu*, **Xianfeng Yang***, Shuliang Pan, & Nan Zou, (2016), "Flexible Transit Route Design to Enhance System Accessibility in Urban Area", Journal of Advanced Transportation, vol. 50 (4), pp. 507–521.

16. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2015), "Dynamic Signal Priority Control Strategy to Mitigate the Off-ramp Queue Spillback to the Freeway Mainline Segment", Journal of Transportation Research Board: Transportation Research Record, vol. 2443, pp. 40–48.

15. Yang Carl Lu*, **Xianfeng Yang**, & Gang-Len Chang, (2015), "Detector-error Screening Algorithm based on Temporal and Spatial Information", Journal of Transportation Research Board: Transportation Research Record, vol. 2438, pp 1-11.

14. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2015), "Exploratory analysis of an optimal variable speed control system for a recurrently congested freeway bottleneck", Journal of Advanced Transportation, 49(2), 195–209.

13. Yongjie Lin, **Xianfeng Yang**, Nan Zou*, & Mark Franz, (2015), "Transit Signal Priority Control at Signalized Intersections: a Comprehensive Review", Transportation Research Record: Journal of the Transportation Research Board, vol 2487, pp. 112–121.

12. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2015), "Integrating Off-Ramp Spillback Control with a Decomposed Arterial Signal Optimization Model", Transportation letters, vol 7(3), pp. 168–180.

11. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2014), "Multi-path Progression Model for Synchronization of Arterial Traffic Signals", Transportation Research, Part C, vol. 53 pp.93–111.

10. Yang Lu & **Xianfeng Yang***, (2014), "Estimating Dynamic Queue Distribution in a Signalized Network through a Probability Generating Model", IEEE Transactions on Intelligent Transportation Systems, vol. 15(1), 334–344.

9. **Xianfeng Yang***, Gang-Len Chang, & Saed Rahwanji, (2014), "Development of a Signal Optimization Model for Diverging Diamond Interchange", ASCE Journal of Transportation Engineering, vol. 140(5), 04014010.

8. **Xianfeng Yang*** & Shanjiang Zhu, (2014), "Solution to the Multidepot Inventory Slack-Routing Problem at the Planning Stage", ASCE Journal of Computing in Civil Engineering, vol 30(1), 04014115.

7. Shuliang Pan, Jie Yu*, **Xianfeng Yang**, & Nan Zou, (2014), "Designing a flexible feeder transit system serving irregularly shaped and gated communities: determining service area and feeder route planning", ASCE Journal of Urban Planning and Development, 141(3), 04014028.

6. **Xianfeng Yang*** & Lei Feng, (2013), "Inventory routing problem: Routing and scheduling approach with the objective of slack maximization", Transportation Research Record: Journal of the Transportation Research Board, (2378), 32–42.

5. **Xianfeng Yang***, Gang-Len Chang, Saed Rahwanji, & Yang Lu, (2013), "Development of Planning-Stage Models for Analyzing Continuous Flow Intersections", ASCE Journal of Transportation Engineering, vol. 139(11), pp. 1124–1132.

4. Yongjie Lin*, **Xianfeng Yang**, Nan Zou, & Lei Jia, (2013), "A Passive Transit Signal Priority Control at Urban Arterials", Journal of Northeastern University: Natural Science, vol. 34(9), pp. 1227–1231.

3. Yongjie Lin*, **Xianfeng Yang**, Nan Zou, & Lei Jia, (2013), "Real-Time Bus Arrival Time Prediction: A Case Study for Jinan, China", ASCE Journal of transportation engineering, vol. 139(11), pp. 1133–1140.

2. Yongjie Lin*, **Xianfeng Yang**, Gang-Len Chang, & Nan Zou, (2013), "Transit Priority Strategies for Multiple Routes under Headway-Based Operations", Journal of Transportation Research Board: Transportation Research Record, vol. 2356(1), pp. 34–43.

1. **Xianfeng Yang***, Yang Lu, & Yongjie Lin, (2013), "Interval optimization for signal timings with time-dependent uncertain arrivals", Journal of Computing in Civil Engineering, vol 29(5), 04014057.

Under-reviewed Journal Papers

7. Qinzheng Wang, Yaobang Gong, **Xianfeng Yang*** (2021), "Connected Automated Vehicle Trajectory Control along Signalized Arterial: A Decentralized Approach under Mixed Traffic Environment", Transportation Research Part C, submitted.

6. Zhao Zhang, Yun Yuan, Pan Lu & **Xianfeng Yang***, (2021), "Modeling Freeway Traffic Flows with Physics-Guided Deep Learning", Computer-Aided Civil and Infrastructure Engineering, submitted.

5. Handong Yao, Xiaopeng Li*, & **Xianfeng Yang**, (2021), "Physics-Aware Learning-based Vehicle Longitudinal Trajectory Prediction in Congested Traffic ", Transportation Research Part C, submitted.

4. Yun Yuan, Qinzheng Wang, & **Xianfeng Yang***, (2021), "Physics Regularized Streaming Learning for Macroscopic Traffic Flow Modeling", Transportation Research Part B, submitted.

3. Yun Yuan, Qinzheng Wang, & **Xianfeng Yang***, (2021), "Freeway Vehicle Trajectory Reconstructing Using Physics Regularized Gaussian Process", Transportation Research Part C, submitted.

2. Qinzheng Wang, Yun Yuan, & **Xianfeng Yang***, (2021), "Arterial Origin-destination Flow Estimation Using Flawed Vehicle Trajectories: A Self-supervised Learning Approach Without Ground-Truth", Transportation Research Part B, submitted.

1. Yun Yuan, **Xianfeng Yang***, Zhao Zhang (2021), "Traffic Flow Modeling with Physics Regularized Gaussian Process: Discretized Formulation", Transportation Research Part B, submitted.

Book Chapters

2. Atsushi Nara, **Xianfeng Yang**, Sahar Ghanipoor Machiani, & Ming-Hsiang Tsou, (2021), "An Integrated Evacuation Decision Support System Framework with Social Perception Analysis and Dynamic Population Estimation", Book: Empowering Human Dynamics Research with Social Media and Geospatial Data Analytics, Springer, Cham, pp. 89-112.

1. Atsushi Nara, Sahar Ghanipoor Machiani, Nana Luo, Alidad Ahmadi, Karen Robinett, Ken Tominaga, Jaehee Park, Chanwoo Jin, **Xianfeng Yang**, & Ming-Hsiang Tsou, (2021), "Learning dependence relationships of evacuation decision making factors from Tweets", Book: Empowering Human Dynamics Research with Social Media and Geospatial Data Analytics, Springer, Cham, pp. 113-138.

Refereed Conference Papers

66. Handong Yao*, Xiaopeng Li, & **Xianfeng Yang** (2022), "Vehicle Trajectory Prediction with a Physics-Aware Learning-based Model Considering Shockwaves in a Connected Vehicle Environment", INFORMS Computing Society (ICS) Conference, Tampa, FL.

65. Yaobang Gong, Tanner Isom, **Xianfeng Yang***, Pan Lu, Aaron Wang (2022), Modeling the Impact of COVID-19 on Transportation at Later Stage of the Pandemic: A Case Study of Utah, 101st Transportation Research Board Annual Meeting, Washington D. C. #22-01838.

64. Bahar Arzin, Yaobang Gong, & **Xianfeng Yang*** (2022), "Impact of Connected Vehicle Technology on Traffic Safety in Different Highway Geometric Scenarios", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03282.

63. Lianhua An, Jia Hu*, & **Xianfeng Yang** (2022), "Speed Harmonization for Partially Connected and Automated Traffic", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-02943.

62. Bahar Arzin, **Xianfeng Yang***, Nikola Markovic, & Mingxi Liu (2022), "Electric Vehicle Charging Station Planning over Coupled Power Grid and Transportation Network", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03325.

61. Yun Yuan, Qinzheng Wang & **Xianfeng Yang***, (2022), "Traffic Flow Modeling with Gradual Physics Regularized Learning", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03807.

60. Zhao Zhang, **Xianfeng Yang***, & Yaobang Gong, (2022), "Freeway Traffic Flow Modeling with Physics-guided Machine Learning Technique", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03462.

59. Qinzheng Wang, **Xianfeng Yang***, & Yun Yuan, (2022), "Signalized Arterial Origin-destination (OD) Flow Estimation Using Connected Vehicle (CV) Trajectories: A Deep Learning without Ground-Truth Approach", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-01828.

58. Zhao Zhang, **Xianfeng Yang***, & Yaobang Gong, (2022), "A New Framework of Machine Learning Techniques for Macroscopic Traffic State Estimation", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03305.

57. Yun Yuan, Qinzheng Wang & **Xianfeng Yang***, (2022), "Physics Regularized Streaming Learning for Freeway Traffic State Estimation", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03416.

56. Yun Yuan, Qinzheng Wang & **Xianfeng Yang***, (2022), "Freeway Vehicle Trajectory Reconstructing Using Physics Regularized Gaussian Process", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03520.

55. Jia Hu*, Lianhua An, & **Xianfeng Yang**, (2021), "Modeling Maximum Throughput of Freeway Merging Area with Partially Connected Automated Traffic", 24th IEEE Intelligent Transportation Systems Conference.

54. Qinzheng Wang, **Xianfeng Yang***, Zhitong Huang, & Yun Yuan, (2021), "Adaptive and Multi-path Progression Signal Control under Connected Vehicle Environment", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-00844.

53. Yun Yuan, Xin Wang, Xin Li, & **Xianfeng Yang***, (2021), "A Deep Q-learning Method for Optimal Dynamic Privileged Parking Permit Policy", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-01648.

52. Yun Yuan, Zhao Zhang, & **Xianfeng Yang***, (2021), "Modeling Macroscopic Traffic Flow Using a New Physics Regularized Machine Learning Approach", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-00836.

51. Yun Yuan, Zhao Zhang, & **Xianfeng Yang***, (2021), "Traffic State Estimation with Physics Regularized Gaussian Process: Discretized Formulation", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-00840.

50. Zhao Zhang, & **Xianfeng Yang***, (2021), "Freeway Traffic State Prediction using Constructed Traffic Information from Hybrid Machine Learning", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-03439.

49. Zhao Zhang, Yun Yuan, & **Xianfeng Yang***, (2021), "Freeway Traffic State Estimation Using Physics-guided Machine Learning Technique", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-03216.

48. Xiang Zhang, **Xianfeng Yang**, & Mingyue Ji*, (2020), "A New Design Framework on D2D Coded Caching with Optimal Rate and Less Subpacketizations", IEEE International Symposium on Information Theory, Los Angeles, California, USA. Paper #: 1712.

47. Qinzheng Wang, **Xianfeng Yang***, Zhitong Huang, & Yun Yuan, (2020), "Multi-vehicle Trajectory Optimization for Cooperative Adaptive Cruise Control (CACC) Platoon Formation", 99th Transportation Research Board Annual Meeting, Washington D. C. #20-04227

46. Qinzheng Wang, **Xianfeng Yang***, (2020), "Dynamic Multi-path Signal Progression Control based on Connected Vehicle Technology", 99th Transportation Research Board Annual Meeting, Washington D. C. #20-05011

45. Qinzheng Wang, **Xianfeng Yang***, Blaine D. Leonard, & Jamie Mackey, (2020), "Field Evaluation of Connected Vehicle-based Transit Signal Priority System under Two Different Signal Base Plans", 99th Transportation Research Board Annual Meeting, Washington D. C. #02-04044

44. Bahar Azin, **Xianfeng Yang***, & Kelly Njord, (2020), "Multi-stage Algorithm for Detection-Error Identification based on the Detector Station Type", 99th Transportation Research Board Annual Meeting, Washington D. C. #20-05342

43. Yun Yuan, **Xianfeng Yang***, Hao Wang, Tian Zhao & Yang Liu, (2020), "A Model-based Deep Q-Learning Algorithm for Traffic Signal Timing Control at Isolated Intersections", 99th Transportation Research Board Annual Meeting, Washington D. C.#20-01867

42. Zhao Zhang, Runan Yang, Glenn Blackwelder, & **Xianfeng Yang***, (2020) "Examining Driver Injury Serverity in Left-turn Crashes using Hierarchical Ordered Probit Models", 99th Transportation Research Board Annual Meeting, Washington D. C.#20-04782

41. Zhao Zhang, & **Xianfeng Yang***, (2020) "Freeway Traffic Speed Estimation in Traffic Monitoring Systems using a Hybrid Machine Learning Approach", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-04421

40. **Xianfeng Yang***, Zhehao Zhang, Yun Yuan & Xin Li, (2020) "Freeway Traffic State Estimation with Mixed Connected Automated Vehicles and Human-Driven Vehicles", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-01806.

39. Yunyi Liang, Ning Ma, Jia Hu*, Xin Li, & **Xianfeng Yang**, (2020) "Data-Driven Road Side Unite Location Optimization for Information Propagation under Stochastic Traffic Condition", 99th Transportation Research Board Annual Meeting, Washington D.C. $20-01608

38. Lianhua An, Jia Hu*, & **Xianfeng Yang**, (2020) "Modeling System Dynamics for Mixed Traffic with Partially Connected and Automated Vehicles", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-01778

37. **Xianfeng Yang**, Wei Hao, Cathy Liu, (2020) "Probabilistic Stationary Queuing Model at Signalized Intersections Experiencing Potential Downstream Queue Spillover", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-02475

36. Zhao Zhang, **Xianfeng Yang***, Cathy Liu, Kelly Burns, & Glenn Blackwelder, (2019), "Data Screening Algorithm for Detecting Freeway Wrong Way Driving", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-05930.

35. **Xianfeng Yang***, Zhao Zhang, Gang-Len Chang, & Pengfei Li, (2019), "Smart Signal Control System for Accident Prevention and Arterial Speed Harmonization under Connected Vehicle Environment", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-05811.

34. Yongjie Lin & **Xianfeng Yang***, (2019), "Real-time Signal Control for Bus Rapid Transit with Connected Vehicle Technology", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-04639.

33. Jessica Dozier, Kimberly McFarland, Sahar Ghanipoor Machiani, Atsushi Nara, **Xianfeng Yang**, & Ming-Hsiang Tsou, (2019), "Improve Disaster Communication in Hyperlocal Online and Offline Communities using Social Media: A Case Study of the 2015 Nepal Earthquake", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-02557.

32. Farzana Chowdhury, Peirong (Slade) Wang, Pengfei Li*, Li Zhang, & **Xianfeng Yang**, (2019), "Resilient Mixed Integer Linear Programming Formulation for Heterogeneous Traffic Signal Priority Scheduling Problem", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-06026.

31. **Xianfeng Yang***, Zhehao Zhang, Ming Tsou, Sahar Ghanipoor, & Atsushi Nara, (2018), Development of Integrated Wildfire Evacuation Decision Support System (IWEDSS) with Population Density Distribution and Robust Optimization Framework, 97th Transportation Research Board Annual Meeting, Washington D. C. Conference Paper, #18-05562

30. **Xianfeng Yang***, Ke Huang, Wei Hao, & Yang Carl Lu, (2018), Development of Two-stage Based Eco-Driving System for Connected Automated Vehicles, 97th Transportation Research Board Annual Meeting, Washington D. C. Conference Paper, # 18-00772

29. Liu Xu, **Xianfeng Yang***, Gang-Len Chang, & Saed Rahwanji, (2017), "Computing the of Minimal U-turn Offset for an Un-Signalized Superstreet", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2645

28. **Xianfeng Yang*** & Gang-Len Chang, (2017), "Estimation of time-varying origin-destination patterns for design of multi-path progression on a signalized arterial", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2643

27. **Xianfeng Yang***, Yan Cheng, & Jayesh Sanchez, (2017), "Arterial Corridor Decomposition Model for Improving Signal Progression Efficiency", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-3522

26. **Xianfeng Yang***, & Gang-Len Chang, (2017), "Integrating of Adaptive Signal Control and Freeway Off-ramp Priority Control for Commuting Corridors";, 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2566

25. **Xianfeng Yang*** & Yang Carl Lu, (2017), "A Two-Stage Solution Algorithm for a Meanderable Urban Logistic Problem, 96th Transportation Research Board Annual Meeting, Washington D. C. #17-3651

24. Liu Xu, **Xianfeng Yang***, & Gang-Len Chang, (2017), "Two-stage Signal Optimization Model for Signalized Superstreet", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2544

23. Wenxin Qiao*, Tong Zhu, **Xianfeng Yang**, & Jia Liu, (2016), "Transit Signal Priority Control Algorithm with Gaming Theory: An Application in Beijing, China", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-5498

22. Yongjie Liu, **Xianfeng Yang***, & Zhijie Dong, (2016), "Passive Transit Signal Priority on Local Arterials: Model Formulation and Strategy Selection", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4671

21. Liu Xu, **Xianfeng Yang***, Gang-Len Chang, & Saed Rahwanji, (2016), "Development of Interval-based Planning Models for Evaluating the Geometric Features of Signalized Superstreet" , 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4287

20. Yao Cheng, **Xianfeng Yang***, & Gang-Len Chang, (2016), "DUALBAND: A Signal Progression Model to Synchronize both Through and Turning Traffic on Local Arterials", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4255

19. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2016), "Operational Analysis and Signal Design for Asymmetric Two-Leg Continuous Flow Intersections", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4155

18. Yao Cheng, **Xianfeng Yang***, & Gang-Len Chang, (2015), "A bus-based progression system for arterials with heavy transit flows", 94th Transportation Research Board Annual Meeting, Washington D. C. # 15-0097.

17. **Xianfeng Yang**, Yao Cheng*, & Gang-Len Chang, (2015), "Integrating off-ramp spillback control with the decomposed arterial signal optimization model", 94th Transportation Research Board Annual Meeting, Washington D. C. # 15-3565, also published in TRR.

16. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2014) "Real-Time Traffic Queue Length Estimation at the Freeway Off-ramp Using Dual-Zone Detectors", ITS World Congress, Detroit, Michigan.

15. Yang Carl Lu*, **Xianfeng Yang**, & Gang-Len Chang, (2014), "A Detector-Error Screening Algorithm Based on Temporal and Spatial Information", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-2214., also published in TRR.

14. Shuliang Pan, Jie Yu*, **Xianfeng Yang**, & Nan Zou, (2014), "Flexible Feeder Transit System for Chinese Cities: Service Area Determination and Feeder Route Planning", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3043.

13. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2014), "Dynamic Signal Priority Control Strategy to Mitigate Off-ramp Queue Spillback to Freeway Mainline Segment", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-0419.

12. **Xianfeng Yang*** & Yang Carl Lu, (2014), "Development of Optimal Variable Speed Limit Control System for Freeway Work Zone Operations", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3591.

11. Shuliang Pan, **Xianfeng Yang**, Nan Zou*, & Mark Franz, (2014), "Flexible Transit Designs to Enhance the Transport Accessibility of Disabled and Senior Passengers", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3031.

10. Yongjie Lin*, **Xianfeng Yang**, & Nan Zou, (2014), "Dynamic Controls for Bus Rapid Transit System at the Station-Neared Intersections", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3557.

9. **Xianfeng Yang**, Yongjie Lin*, Yang Carl Lu, & Nan Zou, (2013) "Optimal Variable Speed Limit Control for Real-time Freeway Congestions". 13th COTA International Conference of Transportation Professionals (CICTP), Shenzheng, China.

8. Yongjie Lin*, **Xianfeng Yang**, Nan Zou, & Lei Jia, (2013), " Development of model-based transit signal priority control for local arterials", 13th COTA International Conference of Transportation Professionals (CICTP), Shenzheng, China.

7. Yongjie Lin*, **Xianfeng Yang**, Shuliang Pan, & Nan Zou, (2013), "Transit Signal Priority Control for Multi-conflicted Routes under Headway-based Service". The 2nd International Conference on Transportation Information and Safety (ICTIS 2013), Wuhan China.

6. Yongjie Lin*, **Xianfeng Yang**, Nan Zou, & Lei Jia, (2013), "Real-Time Bus Arrival Time Prediction: Application to Case of Chinese Cities". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3355.

5. Yongjie Lin*, **Xianfeng Yang**, Gang-Len Chang, & Nan Zou, (2013), "Transit Priority Strategies for Multiple Routes Under Headway-Based Operations". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3190, also published in TRR.

4. **Xianfeng Yang*** & Lei Feng, (2013), "Routing and Scheduling Approach for Urgent Material Distribution Problem". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-4343, also published in TRR.

3. **Xianfeng Yang***, Gang-Len Chang, Yang Lu, & Saed Rahwanji, (2013), "Development of Planning Framework for Geometric Design of Continuous-Flow Intersections". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3809.

2. **Xianfeng Yang***, Gang-Len Chang, & Saed Rahwanji, (2013), "Multistage System for Planning Analysis and Signal Design of Diverging Diamond Interchange". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3245.

1. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2013), "Proactive Optimal Variable Speed Limit Control for Recurrently Congested Freeway Bottlenecks". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3139.

Non-Refereed Conference Presentations

10. Bahar Azin & **Xianfeng Yang**, (2019), "Integrated Wildfire Evacuation Decision Support System (IWEDSS) Framework Development by Link Transmission Modeling", NSF ASME Meeting, Salt Lake City, UT.

9. Yun Yuan, Hao Wang, Tian Zhao, Yang Liu. & **Xianfeng Yang**, (2019), "A Deep Model-based Deep Q-learning Algorithm for Traffic Signal Timing at Urban Intersection", INFORMS Annual Meeting, Seattle, WA.

8. Qinzheng Wang, **Xianfeng Yang***, Zhitong Huang, & Yun Yuan, (2019), "Multi-vehicle Trajectories Design During Cooperative Adaptive Cruise Control (CACC) Platoon Formation", 2019 Automated Vehicle Symposium, Orlando, FL.

7. **Xianfeng Yang*** & Yongjie Lin, (2015), "Dynamic Speed Control of Connected Vehicles to Enhance Operational Efficiency and Safety at Freeway Work-zones", the 7th Biennial Workshop on Digital Signal Processing for In-Vehicle Systems, San Francisco, CA.

6. **Xianfeng Yang*** & Yongjie Lin, (2015), "Dynamic Speed Control of Connected Vehicles to Enhance Operational Efficiency and Safety at Freeway Work-zones", the 7th Biennial Workshop on Digital Signal Processing for In-Vehicle Systems, San Francisco, CA.

5. **Xianfeng Yang***, (2015), "Integrated Corridor Signal Control of Freeway off-ramp and Local Arterial", 94th Transportation Research Board Annual Meeting, Washington D. C.

4. **Xianfeng Yang**, Yao Cheng*, Gang-Len Chang, Hyeonmi Kim, & Saed Rahwanji, (2014), "Maryland Unconventional Intersection Design (MUID): A Useful Tool to Design and Evaluate Alternative Intersections", Alternative Intersection & Interchange Symposium, Salt Lake City, Utah.

3. Gang-Len Chang*, **Xianfeng Yang**, & Saed Rahwanji, (2014), "Development of a Multi-stage Design System for Diverging Diamond Interchange", Alternative Intersection & Interchange Symposium, Salt Lake City, Utah.

2. **Xianfeng Yang***, Xiyang Song, Hyeonmi Kim, Gang-Len Chang, & Saed Rahwanji, (2014), "Design and Performance Evaluation for Superstreet Intersections", Alternative Intersection & Interchange Symposium, Salt Lake City, Utah.

1. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2014) "Integrated Control of an Urban Freeway Off-ramp and Neighboring Intersections", 20th Conference of the International Federation of Operational Research Societies (IFORS), Barcelona, Spain.

Invited Talks

17. **Xianfeng Yang**, (2021) "Toward Future Smart Mobility: Machine Learning for Connected Automated Vehicle Systems", Purdue University, West Lafayette, IN.

16. **Xianfeng Yang**, (2021) "Physics Regularized Machine Learning for Smart Mobility", University of South Florida, Tampa, FL.

15. **Xianfeng Yang**, (2021) "Physics Regularized Machine Learning for Traffic Flow Modeling", University of Michigan, Ann Arbor, MI.

14. **Xianfeng Yang**, (2020) "Modeling Stochastic Traffic Flow Patterns with Physics Regularized Gaussian Process: Domain Knowledge-based Machine Learning", University of Maryland Traffic Operation Center, College Park, MD.

13. Yun Yuan & **Xianfeng Yang**, (2020) "Traffic State Estimation with Physics Regularized Machine Learning: A New Insight into Machine Learning Applications in Traffic Flow Modeling", Automated Vehicle Symposium 2020, San Diego, CA.

12. **Xianfeng Yang**, Zhehao Zhang, & Zhao Zhang (2018), "Macroscopic Traffic Flow Modeling with Mixed Connected and Human-driven Vehicles", INFORMS 2018 General Session, Phoneix, AZ.

11. **Xianfeng Yang** & Gang-Len Chang, (2018), "Real-time Urban Arterial Signal Control Under Connected Automated Vehicle Environment", Automated Vehicle Symposium 2018, San Francisco, CA.

10. **Xianfeng Yang**, (2018), "Next Generation of Intelligent Transportation System", CAST-UT 2018 Annual Conference AI Session, Salt Lake City, UT.

9. **Xianfeng Yang**, (2017), "Traffic Operations with Connected and Automated Vehicles", University of Utah Freshman Engineering Scholar Program Tour, Salt Lake City, UT.

8. **Xianfeng Yang**, (2017), "Stage-based Evaluation Plan with Robust Optimization", NSF Project Summer Workshop - Social Media Analytics and Decision Support Systems: Applications to Public Health and Crisis Management, San Diego, CA.

7. **Xianfeng Yang**, (2017), "Traffic Operations with Connected and Automated Vehicles", University of Utah Freshman Engineering Scholar Program Tour, Salt Lake City, UT.

6. **Xianfeng Yang**, (2017), "Network Traffic Flow Control: Existing Problems and New Challenges", University of Utah, Salt Lake City, UT.

5. **Xianfeng Yang**, (2016), "Integrated Wildfire Evacuation System with Social Perception Analysis and Dynamic Population Estimation", NSF Project Summer Workshop - Human Dynamics and Big Data, San Diego, CA.

4. **Xianfeng Yang**, (2016), "Traffic Management and Evacuation Planning", West Virginia University, Morgan Town, WV.

3. **Xianfeng Yang**, (2015), "Development of Multi-Modal Evacuation System", San Diego Office of Emergency Service, San Diego, CA.

2. **Xianfeng Yang**, (2015), "Traffic Management and Integrated Control for Congested Corridors", University of Louisville, Louisville, KY.

1. **Xianfeng Yang**, (2015), "Integration of Adaptive Signal Control and Off-ramp Priority Control for Commuting Corridors", San Diego State University, San Diego, CA.

Project Reports

11. Zhao Zhang, **Xianfeng Yang**, & Yun Yuan, (2021) "Methodology for Evaluating Intersection Safety & Operational Performance with Left-turn Phasing ". Utah Department of Transportation.

10. Zhao Zhang, **Xianfeng Yang**, & Yun Yuan, (2021) "Utilizing Machine Learning to Cross-check Traffic Data & understand Urban Mobility". Utah Department of Transportation.

9. Bahar Azin, **Xianfeng Yang**, & Yun Yuan, (2021) "I-80 Hybrid CMS Regulatory Speed Limit Design and VSL System Evaluation". Utah Department of Transportation.

8. Bahar Azin, **Xianfeng Yang**, & Yun Yuan, (2020) "Multi-Stage Algorithm for Detection-Error Identification and Data Screening". Utah Department of Transportation No. UT-18.03.01.

7. Qinzheng Wang, **Xianfeng Yang**, & Yun Yuan, (2020) "Transit signal progression algorithm for supporting Redwood Road Transit Signal Priority". Utah Department of Transportation No. UT-18.03.02.

6. Qinzheng Wang, **Xianfeng Yang**, Cathy Liu, & Yun Yuan, (2020) "Understanding Connected And Automated Vehicle's Impact on Transportation Planning". Utah Department of Transportation No. UT-18.06.04.

5. Zhao Zhang, **Xianfeng Yang**, Cathy Liu, & Yun Yuan, (2019) "Investigation of Utah Highway Speed Limit Compliance Rate and Evaluation of Speed Limit Design in Towns along Highways". Utah Department of Transportation No. UT-19.26.

4. Zhao, Zhang, **Xianfeng Yang**, Cathy Liu, & Yun Yuan, (2019) "Assessment of the Effectiveness of Wrong Way Driving (WWD) Detection System". Utah Department of Transportation No. UT-19.13.

3. **Xianfeng Yang**, Mingyue Ji, & Qinzheng Wang, (2019) "Connected Vehicle System Design for Signalized Arterials". NITC-RR-1235. Portland, OR: Transportation Research and Education Center (TREC).

2. **Xianfeng Yang**, Zhehao Zhang, & Zhao Zhang, (2018) "Vehicle Sensor Data (VSD) Based Traffic Control in Connected Automated Vehicle (CAV) Environment". NITC-RR-1175. Portland, OR: Transportation Research and Education Center (TREC).

1. Gang-Len Chang, Yang Lu, & **Xianfeng Yang**, (2011), "An Integration Computer System for Analysis, Selection, and Evaluation of Unconventional Intersections", Maryland SHA, MD-11- SP909B4H.

Teaching Experiences at U of Utah

12. **Spring 2022, CVEEN 3520 Transportation Engineering.**
Number of registered students: 15.
Teaching evaluation: Course: N/A; Instructor: N/A.

11. **Fall 2021, CVEEN 3520 Transportation Engineering.**
Number of registered students: 39.
Teaching evaluation: Course: 5.41/6.0; Instructor: 5.32/6.0.

10. **Spring 2021, CVEEN 5920/6920 Smart City & Infrastructure.**
Number of registered students: 11.
Teaching evaluation: N/A (No Rating provided with the new system) ***Top undergraduate teacher award***

9. **Spring 2021, CVEEN 3520 Transportation Engineering.**
   Number of registered students: 20.
   Teaching evaluation: N/A (No Rating provided with the new system). ***Top undergraduate teacher award***

8. **Fall 2020, CVEEN 3520 Transportation Engineering.**
   Number of registered students: 35.
   Teaching evaluation: Course: 5.58/6.0; Instructor: 5.54/6.0.

7. **Spring 2020, CVEEN 3520 Transportation Engineering.**
   Number of registered students: 25.
   Teaching evaluation: Course: 5.01/6.0; Instructor: 5.08/6.0.

6. **Spring 2020, CVEEN 5920/6920 Smart City & Infrastructure.**
   Number of registered students: 8.
   Teaching evaluation: Course: 5.31/6.0; Instructor: 5.45/6.0.

5. **Fall 2019, CVEEN 5920/6920 Optimization in Transportation.**
   Number of registered students: 9.
   Teaching evaluation: Course: 5.25/6.0; Instructor: 5.37/6.0.

4. **Spring 2019, CVEEN 3520 Transportation Engineering.**
   Number of registered students: 14.
   Teaching evaluation: Course: 5.26/6.0; Instructor: 5.24/6.0.

3. **Fall 2018, CVEEN 5920/6920 Optimization in Transportation.**
   Number of registered students: 8.
   Teaching evaluation: Course: 5.48/6.0; Instructor: 5.6/6.0.

2. **Spring 2018, CVEEN 3520 Transportation Engineering.**
   Number of registered students: 20.
   Teaching evaluation: Course: 5.47/6.0; Instructor: 5.6/6.0;.

1. **Fall 2017, CVEEN 5920/6920 Optimization in Transportation.**
   Number of registered students: 8.
   Teaching evaluation: Course: 5.62/6.0; Instructor: 5.7/6.0.

Research Team at U of Utah

8. Qiwei Zhao, Ph.D. Student, University of Utah, Spring 2022 — Spring 2025 (Expected).
   Research focus: Machine Learning

7. Kaitai Yang, Ph.D. Student, University of Utah, Spring 2022 — Spring 2025 (Expected).
   Research focus: Machine Learning

6. Aaron Wang, High-school research Assistant, University of Utah, Summer 2021 – present.

5. Yaobang Gong, Postdoc Research Associate, University of Utah, Summer 2021 – Present.
   Research focus: Machine Learning, Traffic Safety, and CAV.

4. Sayantan Tarafdar, Ph.D. Student, University of Utah, Fall 2021 — Spring 2025 (Expected).
   Research focus: Physics Regularized Machine Learning

3. Bahar Azin, Ph.D. Student, University of Utah, Spring 2019 — Fall 2022 (Expected).
   Research focus: Electric Vehicle Charging Management

2. Qinzheng Wang, Ph.D. Student, University of Utah, Fall 2018 — Fall 2021 (Expected).
   Dissertation Topic: Adaptive Traffic Signal Control and Connected Automated Vehicle Trajectory Optimization in Mixed Traffic Streams

1. Zhao Zhang, Ph.D. Student, University of Utah, Spring 2018 — Spring 2022 (Expected).
   Dissertation Topic: Freeway Traffic State Estimation Using Hybrid Machine Learning

Former team members

7. Yonas Ghebremedhin, Ph.D. Student, University of Utah, Fall 2021 —.
   Research focus: Artificial Intelligence for Transportation Equity

6. Mohammad Abbasi, Ph.D. Student, University of Utah, Fall 2021 —.
   Research focus: Connected Automated Vehicles in Winter Seasons

5. Luke Cadona, Undergraduate Research Assistant, University of Utah, Summer 2021.

4. Johnny Irving, Undergraduate Research Assistant, University of Utah, Summer 2021.

3. Tanner J. Isom, Undergraduate Research Assistant, University of Utah, Summer 2021.

2. Yun Yuan, Postdoc Research Associate, University of Utah, Spring 2019 – Summer 2021 .
   Research focus: Machine Learning and CAV control

1. Zhehao Zhang, Master Student, University of Utah, Fall 2017 — Spring 2019.
   Thesis: Freeway Traffic Optimal Control with Mixed Connected Automated Vehicle and Human-Driven Vehicles
   Committee: Xianfeng Yang (Chair), Cathy Liu, Abbas Rashidi

Ph.D./M.S. Thesis Committee

6. Chair, Zhao Zhang, Ph.D. dissertation, University of Utah, Spring, 2022.
   Dissertation: Freeway Traffic Flow Modeling and Forecasting using Physics Guided Machine Learning
   Advisor: Xianfeng Yang

5. Chair, Qinzheng Wang, Ph.D. dissertation, University of Utah, Spring, 2022.
   Dissertation: Adaptive and Multi-Path Progression Traffic Signal Control and Connected Automated Vehicle Trajectory Optimization under Mixed Traffic Environment
   Advisor: Xianfeng Yang

4. Member, Fahmid Hossain, Ph.D. dissertation, University of Utah, Spring, 2022.
   Dissertation: Development of a Methodology to Validate and Calibrate a Proactive Systemic Approach to Road Safety Management
   Advisor: Juan Medina

3. Member, Jiayu Xue, Ph.D. dissertation, University of Utah, Spring, 2021.
   Dissertation: Numerical and Data Based Approach to Estimate Power Infrastructure Failure during a Hurricane and its Impact to Power Transmission System
   Advisor: Gaby Ou

2. Member, Zhixuan Huang, MS thesis, University of Utah, Summer, 2020.
   Thesis: A GIS-based Approach for Modeling Autonomous Shuttle Station Siting and Hurricane Evacuation Routes
   Advisor: Tom Cova

1. Member, Nuzhat Azra, MS thesis, University of Utah, Fall, 2018.
   Thesis: Disaggregation of Intersection Crash Data: An Individual Crash Level Approach to Crash Frequency Analysis
   Advisor: Juan C. Medina

Professional Services

2021 – present	Member, Standing Committee on Disaster Response, Emergency Evacuations, and Business Continuity (AMR 20), Transportation Research Board
2020 – present	Secretary & Voting member, ASCE Artificial Intelligence Committee
2019 – present	Vice Chair, INFORMS-TSL-Special Interest Groups-Intelligent Transportation Systems Committee
2019 Jul	Co-Organizer, Breakout Session: New Innovations in Intelligent Intersection Management with Cooperative Automation, Automated Vehicle Symposium 2019, Orlando, FL
2018 – present	Panelist, National Cooperative Highway Research Program (NCHRP)
2018 – present	Panelist, National Science Foundation (NSF): 4 panels
2018 Jul	Co-Organizer, Breakout Session: New Innovations in Intersection Control with Cooperative Automation, Automated Vehicle Symposium 2018, San Francisco, CA
2018 – 2021	Member, Emergency Evacuation Committee (ABR 30), Transportation Research Board
2018 – present	Member, Traffic Safety Committee, World Transport Convention
2017 – present	Member, Traffic Signal System committee (ACP 25), Transportation Research Board
2017, Apr	Co-Chair, AAAI workshop: Artificial Intelligence for Connected Automated Vehicles

Editorial Services

2021 – present	Editorial Board Member, Transportation Research Part C
2020 – 2021	Guest Editor, Frontiers in Transportation
2020 – present	Associate Editor, ASCE Journal of Urban Planning and Development
2019 – present	Associate Editor, IEEE OJ-Intelligent Transportation Systems
2021 – present	Paper Review Coordinator, Disaster Response, Emergency Evacuations, and Business Continuity Committee (AMR 20)
2019 – 2020	Paper Review Coordinator, Emergency Evacuation Committee (ABR 30), Transportation Research Board
2018 – 2021	Paper Review Coordinator, Traffic Signal System committee (AHB 25), Transportation Research Board
2018 – 2020	Editorial Board Member, ASCE Journal of Urban Planning and Development
2017 – 2019	Sub Editor, International Journal of Engineering Research in Mechanical and Civil Engineering
2017	Area Editor, the 18th COTA International Conference of Transportation Professionals (CICTP2018)
2016	Area Editor, the 17th COTA International Conference of Transportation Professionals (CICTP2017)

Referee Services

Journals:

- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Intelligent Transportation Systems Magazine
- IEEE Transactions on Vehicular Technology
- PLOS One
- Journal of Intelligent Transportation Systems: Technology, Planning, and Operations
- ASCE Journal of Transportation Engineering Part A
- Journal of Advanced Transportation
- Transportation Research Part A
- Transportation Research Part B
- Transportation Research Part C
- Transportation Research Part E
- Transportmetrica Part A
- Transportmetrica Part B

- Networks and Spatial Economics
- Journal of the Transportation Research Board
- ASCE Journal of Computing in Civil Engineering
- ASCE Journal of Urban Planning and Development
- Advances in Mechanical Engineering
- Logistics
- Journal of Traffic and Transportation Engineering
- Journal of Engineering
- Computers, Environment and Urban Systems

Conferences:

- 91st- 100th Transportation Research Board Annual Meeting, 2012-2021
- 2019-2021 IEEE International Conference on Intelligent Transportation - ITSC
- 2018 International Conference on Transportation & Development
- 15th COTA International Conference of Transportation Professionals 2015
- 94th Transportation Research Board Annual Meeting, 2015
- 2014 ITS World Congress
- 2014 International Symposium on Highway Geometric Design

Department Services

2021 June	Session Trainer and Faculty Presenter, Transportation Summer Camp
2021 April	Faculty Presenter, CVEEN Graduate Recruitment Event
2019 – present	Member, UG Student Recruitment and Outreach Committee
2018 – present	Member, ABET & Undergraduate Committee
2017 – 2018	Member, Transportation Engineering Faculty Search Committee
2017 – 2019	Member, Department Scholarship Committee

College and University Services

2021 Nov.	Organizing Faculty and Presenter, Engineering Day
2021 June	Faculty Presenter, Autonomous Vehicle Demonstration Session, College Hi-Gear Recruitment Event
2020 Nov.	Organizing Faculty and Presenter, Engineering Day

2018 Dec. Organizing Faculty and Presenter, Engineering Day

2017 Oct. Presenter, Freshman Engineering Scholar Program (ESP) Tours

2017 Dec. Organizing Faculty and Presenter, Engineering Day

Awards and Honors

2021 Top Undergraduate teachers in College of Engineering, Spring 2021, University of Utah

2021 National Science Foundation CAREER Award, University of Utah

2018 Transportation Research Part A 2017 Outstanding Reviewer, University of Utah

2018 Transportation Research Part C 2017 Outstanding Reviewer, University of Utah

2018 Transportation Research Part E 2017 Outstanding Reviewer, University of Utah

2018 ASCE Journal of Transportation 2017 Outstanding Reviewer, University of Utah

2017 National Science Foundation CPS program workshop travel award, University of Utah

2015 GREW Fellowship, San Diego State University

2015 CEE Fellowship, University of Maryland

2015 Best Ph.D. Research Award, University of Maryland

2014 CEE Fellowship, University of Maryland

2013 Future Faculty Fellowship, University of Maryland

2012 CEE Fellowship, University of Maryland

Student Awards

2021 Zhao Zhang, 1st place of the TRB AED50 (Artificial Intelligence and Advanced Computing Committee) best doctoral dissertation competition